

C L A I M S

1. A method of connecting a first pipe to a second pipe having an end part fitting into an end part of the first pipe, comprising

a) arranging the end part of the second pipe within the end part of the first pipe;

b) arranging a sleeve of a deformable material between said end parts; and

c) radially expanding the end part of the second pipe towards the end part of the first pipe so as to bias the sleeve between said end parts.

2. The method of claim 1, wherein the sleeve is made of a hard elastomer or a ductile metal.

3. The method of claim 1, wherein the sleeve is made of a shape-memory alloy so that the sleeve is expandable upon heating of the sleeve to the transition temperature of the shape-memory alloy, and wherein the method further comprises:

d) after step c), heating the sleeve to the transition temperature of the shape-memory alloy thereby expanding the sleeve to form a metal-to-metal seal between said end parts.

4. The method of claim 3, wherein two said shape-memory alloy sleeves are arranged concentrically between said end parts, one of the sleeves being connected to the outer surface of the end part of the second pipe, and the other sleeve being connected to the inner surface of the end part of the first pipe, and wherein after step c)

each sleeve is heated to the transition temperature of the shape-memory alloy thereby expanding the sleeves to form a metal-to-metal seal between said end parts.

5      5. The method of claim 4, wherein each sleeve is expandable by virtue of an increase of the wall thickness of the sleeve upon heating of the sleeve to the transition temperature of the shape-memory alloy.

10      6. The method of claim 5, wherein the inner surface of the end part of the first pipe is provided with an annular recess.

7. The method of claim 5, wherein step c) comprises installing a device provided with an explosive charge in the end part of the second pipe, and detonating the explosive charge.

15      8. The method of claim 7, wherein said device comprises a cylindrical body provided with an annular shoulder for positioning the device against the end part of the second pipe, and an annular recess in which the explosive charge is arranged.

20      9. The method of claim 8, wherein the first pipe is an upper wellbore casing and the second pipe is a lower wellbore casing.

10. The method substantially as described hereinbefore with reference to the drawing.